



ERLN

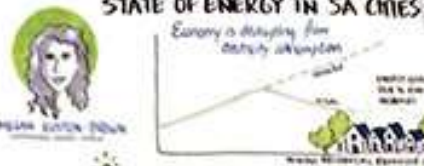
Economics of Regions
LEARNING NETWORK

Local & Sub-national Renewable Energy & Energy Efficiency



STATE OF ENERGY IN SA CITIES

Economy is diverging from electricity consumption



WWF VISION & RESEARCH



MITIGATING LOAD SHEEDING



EMBEDDED PV



NELSON MANDELA BAY MUNICIPALITY



MUNICIPALITIES ARE CUSTOMERS OF THE GRID



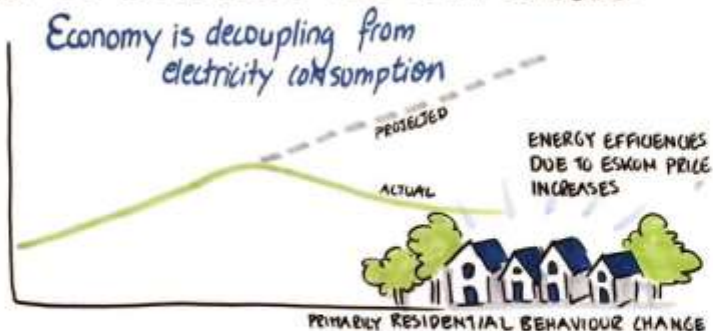
CHANGE



CHALLENGES & OPPORTUNITIES OF EMBEDDED GENERATION



STATE OF ENERGY IN SA CITIES



PLASTERS or

- o Decoupling
- o Efficiencies
- o Economic Benefit Structures



WHOLE NEW MODEL?

New Energy Services etc





MANISHA GULATI
WWF

WWF VISION & RESEARCH

PROMOTE UTILITY
SCALE R.E.
DEVELOPMENT

PROMOTE DISTRIBUTED
& EMBEDDED R.E.
GENERATION

FUEL FOR
SOCIO-ECONOMIC
DEVELOPMENT



PROMOTE
RD&D OF R.E.



MORE AFFORDABLE ONCE
SET UP

NEEDS SMART PLANNING - LOCATE
R.E. WITHIN 20KM OF GRID



NELSON MANDELA BAY MUNICIPALITY

TOOK RISK FOR ECONOMIC BENEFIT OF CITY

WHEELING FRAMEWORK

Encourages Green Traders

20yrs

- 20% GRID USE CHARGE
- +
- CHARGE FOR ENERGY WHEELED

UP TO 10%
% City's Energy

WHEELING



MUNICIPALITIES ARE CUSTODIANS OF THE GRID



CURRENT 3RD PARTY WHEELING
FRAMEWORKS DON'T WORK FOR
MUNIS



IN DISCUSSIONS
WITH NERSA...



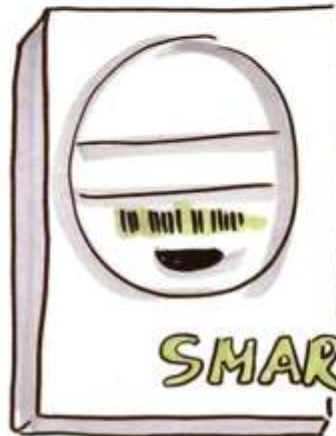
KZN ENERGY AGENCY BUSINESS MODEL



MITIGATING LOAD SHEDDING



DEMAND SIDE
INSTRUMENTS



SMART METERS

OFFERS CONSUMERS
CAPPED ELECTRICITY
SUPPLY BUT
CONTINUITY OF SUPPLY
REMAINS

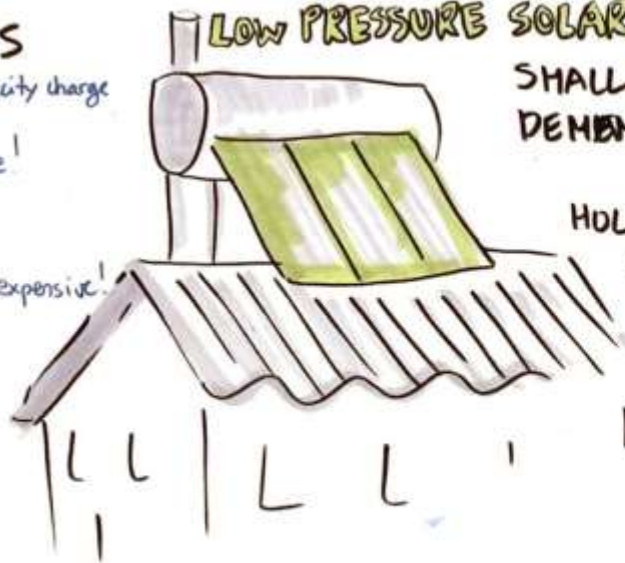
Consumers choose
how to use it....



SUPPLY SIDE INSTRUMENTS

- KELVIN POWER STATION pays a capacity charge
- OPEN CYCLE GAS TURBINE - expensive!
- P.V - IPP
- OWN
- STAND BY DIESEL GENERATORS - expensive!
- CO/FRI GENERATION
- WASTE TO ENERGY
- BATTERY STORAGE

LOW PRESSURE SOLAR WATER HEATING



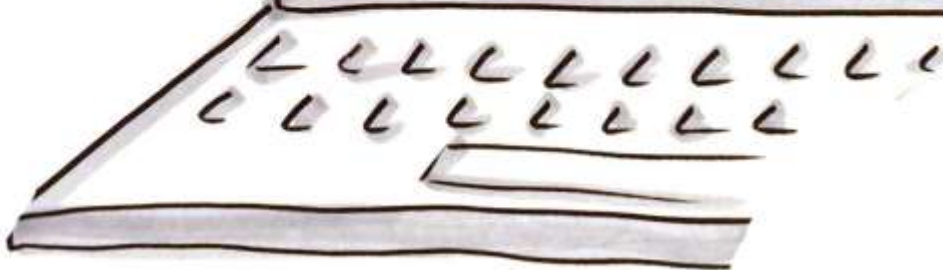
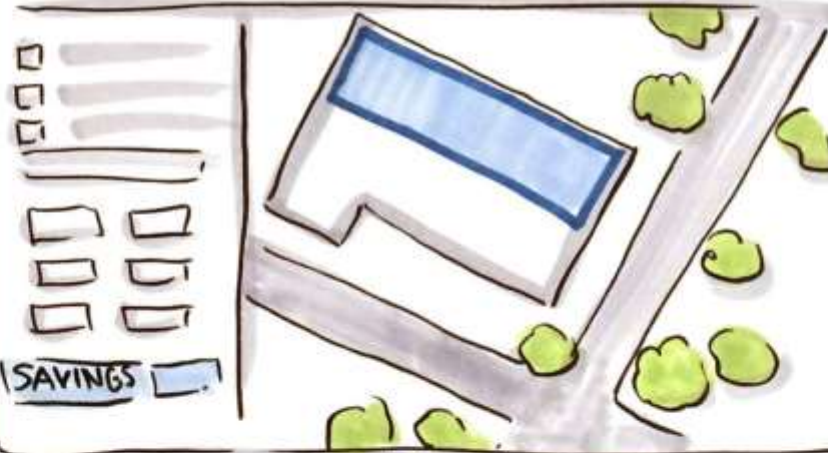
SMALL BUT PERMANENT
DEMAND REDUCTION
&
HOLDS OFF FUTURE
DEMAND

SUSANNA
GODEHART

ENERGY OFFICE, ETHEKWINI MUNICIPALITY



DURBAN SOLAR MAP



NEXT 10 YEARS → BUSINESS AS UNUSUAL

UP TO 38% ELECTRICITY REVENUE REDUCTION Efficiencies & Renewables

Embrace →

NEW MODEL NEW ECONOMY CLEANER RESILIENT

BRIGHTER FUTURE

“ECONOMICALLY COMPETITIVE CITIES DEPEND ON RESOURCE EFFICIENCY” Water Energy

REGULATORY AUTHORITY CHANGE

NATIONAL REVENUE MODEL

MUNICIPAL REVENUE MODEL

EMBEDDED GENERATION

- Keeps economy going during load shedding
- Position CAPE TOWN as a place for CLEAN TECHNOLOGY INVESTORS

DR TO BISCHOP ENERGY

ANDREW JANISH CITY OF CAPE TOWN

LANCE GREYLING CITY OF CAPE TOWN

Create Enabling Environment



EMBEDDED GENERATION





- PV IS:
- 1 COST COMPETITIVE
 - 2 MANY PROJECTS AT ONCE
 - 3 500 - 1000 MW/yr

EMBEDDED PV

- POWER SYSTEM SOLUTIONS NEED TO BE
- 1 CHEAP / AFFORDABLE
 - 2 FAST TO IMPLEMENT
 - 3 LARGE SCALE



DR TOBIAS
BISCHOF-NIEMZ
ENERGY - CSIE

MEGAN
EUSTON-BROWN
SUSTAINABLE ENERGY AFRICA

